1907MNRAS..67..491W

would resemble each other, whereas if seen equatorially the irregularities in the other hemisphere would come in. The problem is very similar to the well-known problem of bimetallism.

6. There is, however, in our problem a factor not represented in that of bimetallism. Increased activity may mean the production of increased clouds of absorbing Corona, and the effect of this on the maximum might be different in different aspects. It would be unprofitable to speculate on the importance of this unknown factor in the present state of our knowledge. It seems better simply to call attention to the above fact. It is, on the face of it, unfavourable to the hypothesis put forward: but a direct contradiction is more satisfactory than a fact which goes neither one way nor the other, since there is always the possibility that a simple inversion of some kind has been overlooked.

Elements of the Variable Star R V Andromedæ. R.A. = $2^h\ 4^m\ 34^s$, Decl. = +48° 27′·6 (1900). By A. Stanley Williams.

A period of 182 days was suggested for this variable star in 1904 by the writer, from a comparison of a single visually-observed minimum in January of that year with some earlier photographic observations.* From the observations made here last year, combined with two maxima and two minima observed by Professor A. A. Nijland at Utrecht,† the following much more satisfactory elements of variation have been derived:

$$\text{Maximum} = \left\{ \begin{matrix} \text{1904 April 26} \\ \text{J.D. 2416597} \end{matrix} \right\} + 170^{d}\cdot 2\ E$$

the interval M – *m* being 82 days.

The above period was derived from five observations of four maxima and seven observations of six minima, the periods resulting from the maxima and minima being respectively 172·2 days and 166·2 days. The observations of the minima were more numerous than those of the maxima, and extended over a longer interval of time; but the maxima were more sharply defined than the minima, and the observations also more accordant, so that double weight was given to the determination from the maxima.

Quite recently the dates of two additional maxima and two additional minima have been published by Nijland;‡ and those of two maxima and a minimum by Mr F. H. Seares, from observations made by Mr E. S. Haynes at the Laws Observatory.§ Table I. below contains the particulars of all the observed maxima, together with the computed dates according to the foregoing elements, and the differences O – C. Table II. gives the corre-

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* *A.N.*, No. 3944. † *A.N.*, No. 4116. ‡ *A.N.*, No. 4164.

§ *Bulletin No.* 10 *of the Laws Observatory*, p. 147. Seares derived a period of 169 days for the star.

1907MNRAS..67..491W

sponding particulars for the minima. In both tables the observations published subsequently to the derivation of the elements are marked with an asterisk.

Table I.

Observed and Computed Maxima.

E	Obs. Max.	Comp. Max.	O – C.	Obs. Mag.	Observer.
			d		
1	2416767	2416767·2	– 0·2	8·3	Williams
2	6934	6937·4	– 3·4	9·0	Nijland
3	7103	7107·6	– 4·6	8·0	Williams
3	7105	7107·6	– 2·6	8·9	Nijland
4	7289*	7277·8	+ 11·2	8·9	Nijland
5	7445*	7448·0	– 3·0	...	Haynes
5	7453*	7448·0	+ 5·0	9·1	Nijland
5	7455	7448·0	+ 7·0	8·2	Williams
6	7609*	7618·2	– 9·2	...	Haynes.

Table II.

Observed and Computed Minima.

E	Obs. Min.	Comp. Min.	O – C.	Obs. Mag.	Observer.
			d		
0	2416509	2416515·0	– 6·0	10·1	Williams
1	6694	6685·2	+ 8·8	10·2	Williams
2	6875	6855·4	+ 19·6	10·4	Williams
3	7045	7025·6	+ 19·4	11·1	Nijland
4	7174	7195·8	– 21·8	10·8	Nijland
4	7177	7195·8	– 18·8	10·3	Williams
5	7341*	7366·0	– 25·0	10·8	Nijland*
6	7514*	7536·2	– 22·2	...	Haynes
6	7518*	7536·2	– 18·2	11·3	Nijland
6	7518	7536·2	– 18·2	10·6	Williams

The residuals in the fourth columns of the preceding tables are somewhat large, particularly those in Table II., but having regard to all the circumstances, it does not seem that any important correction to the foregoing elements of variation is indicated by the subsequently published observations. One somewhat interesting feature is, however, pointed out. The progressive nature of the change in the residuals of Table II. seems to show that the interval from minimum to maximum is not constant in the case of this star, but varies to a very appreciable extent from time to

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* Nijland also observed a secondary minimum on J.D. 2417405 (O – C = $+61^{d}$), with an intervening secondary maximum, about half a magnitude brighter.

1907MNRAS..67..491W

time. In other words, this would mean that the form of the light curve is, doubtless, within limits, in a state of more or less constant change. It is possible that the change here referred to may be due, in part at least, to the existence of a periodical irregularity in the length of the period of variation, but the observations hardly favour this, though they have not yet been continued long enough to settle the question. It should be noted that the largest and most important change indicated by the residuals of Table II. is supported by the accordant observations of two different observers, so that there cannot be much doubt as to its reality.

With regard to the magnitudes in the penultimate columns of the tables, it should be remarked that the systematic difference between Nijland and the writer is probably due to a difference of scale. The comparison stars made use of at Utrecht were different from those used here. In particular, Nijland used the star BD. + 47°·573 ($8^{\mathrm{m}}\cdot3$) when the variable was bright, whereas at such times the star BD. + 47°·571 ($8^{\mathrm{m}}\cdot2$) was employed by the writer. At the Laws Observatory the comparisons were made with another different star, BD. + 48°·612 ($9^{\mathrm{m}}\cdot3$), Seares stating that Haynes's observations show a range of $2^{\mathrm{m}}\cdot8$, with a maximum $1^{\mathrm{m}}\cdot0$ brighter than the last mentioned star. Probably we shall not be far wrong if we adopt a range of variation from 8½ mag. to 11 mag.

The light curve of this variable, according to the observations made here, is very acute at the time of maximum, and the decline very quick. But after the minimum there is sometimes at first only a slight increase in brightness, followed by a long standstill; or even by a secondary minimum, with an intervening secondary maximum, as observed by Nijland in 1906.

The spectrum of RV Andromedæ appears to be peculiar. Thus the Rev. T. E. Espin recorded it as III!!! in 1893,[*] whilst Mr F. Krüger described it as being III !! (?) in 1902, the bands appearing broad and deep, and the blue and violet wanting.[†]

On the Variable Star RX Andromedæ. R.A. = $0^{\mathrm{h}}\ 58^{\mathrm{m}}\ 55^{\mathrm{s}}$, Decl. = + 40° 46′·2 (1900). By A. Stanley Williams.

The observations of this variable star, which were made here in the year 1905, have already been published in full in the *Monthly Notices*, vol. lxvi. pp. 336, 337. These showed that the star in that year underwent many sudden and irregular variations in brightness, of such a character that, taken in connection with the earlier observations, it seemed as though the variable should be regarded as belonging to the highly-remarkable type of *U Geminorum.*

Between July 24 and December 21 of last year, 48 observations of the brightness of the star were made on 45 nights, but its

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[*] *A.N.*, No. 3231.

[†] *A.N.*, No. 3991.